

### **ABSTRACT OF THE INVENTION**

A format converter which performs frame rate conversion and de-interlacing using a bi-directional motion vector and a method thereof are provided. The method includes the steps of (a) estimating a bi-directional motion vector between the current frame and the previous frame from a frame to be interpolated; setting the motion vector of a neighboring block that has the minimum error distortion, among motion vectors estimated in step (a), as the motion vector of the current block; and (c) forming a frame to be interpolated with the motion vector set in step (b).